Prevalence of Co-infection with Hepatitis C among tuberculosis patients presenting at Gulab Devi Hospital, Lahore

USMAN ALI REHMAN1, ANJUM RAZZAQ2, NAUMAN ISMAT BUTT3, UMER FAROOQ4, FAISAL MUSHTAQ5

1Assistant Professor of Surgery, Gulab Devi Hospital, Lahore
2,4,5Senior Demonstrator Medicine, PGMI, Lahore
3Senior Registrar Medicine, PGMI, Lahore
Correspondence to Dr. Usman Ali Rehman, Email: cool.lamcian@gmail.com, cell: 0321-4597747

ABSTRACT

Aim:: To determine the prevalence of co-infection with hepatitis C among patients of tuberculosis presenting at Gulab Devi Hospital, Lahore.

Methods: We carried out a cross-sectional study at Gulab Devi Hospital, Lahore from 1st January 2018 to 30th June, 2019 which included 400 cases consecutive cases of TB. Informed consent was taken from all participants. Proforma was used to record demographic data. Collected samples were tested for anti HCV at Department of Pathology, Gulab Devi Hospital, Lahore. Results were analyzed using SPSS ver 22.

Results: A total of 400 cases of diagnosed tuberculosis were included in the study. Mean age of the patients was 34.58 +/-17.19 years. 214 (53.5%) of the patients were male while 186 (46.5%) of the patient were female. Of the 400 patients, 31(7.75%) had co infection with Hepatitis C. When stratification of variables was done it was found that education was the only significant factor. (p = 0.0213).

Conclusion: Co-infection with hepatitis C is common in patients of tuberculosis. Patients should be offered screening to help detect and treat the conditions timely.

Keywords: Co-infection, Hepatitis C, Tuberculosis

INTRODUCTION

Tuberculosis is a sinister disease with a chronic, slow and often painful outcome. It may involve any system of the body but most commonly involves the respiratory and gastrointestinal system. With improved living conditions and better healthcare systems the incidence in developed countries has decreased considerably, however, it remains quiet rampant in underdeveloped countries.

As per estimation of the World Health Organization, there were 10.4 million new TB cases worldwide and 1.67 million TB deaths. The highest incidence (45%) was in South-East Asia, followed by, Africa (25%), Western Pacific Region (17%), Eastern Mediterranean Region (7%) and Europe and the Americas (3%)1. According to the WHO Pakistan, with an estimated 510 000 new TB cases emerging each year and approximately 15 000 developing drug resistant TB cases every year, is ranked fifth among B high-burden countries worldwide and it accounts for 61% of the TB burden in the WHO Eastern Mediterranean Region2.

According to data available with National TB Control Program, Pakistan the number of new TB cases during 2017 was more than 344,0003.

Hepatitis C is a well-known agent of liver diseases, including chronic hepatitis, cirrhosis and hepatocellular carcinoma4,5. The global infection rate due to hepatitis C is estimated to be 71 million with approximately 399000 death occurring in 2016 due to the disease.6 Sadly hepatitis is widespread in Pakistan. There are almost 12 million cases of hepatitis in Pakistan with 150 000 new cases being diagnosed each year7. One of the major, clinically relevant side effects in the treatment of TB is hepatotoxicity, which disrupts the treatment process and may lead to discontinuation of the patient’s treatment. Infection with HCV increases the hepatotoxicity of anti-TB drugs, and patients with TB should be tested before they start treatment8. Globally, the prevalence of hepatitis C among patients with TB has not been extensively investigated, and very limited data on rates of HCV co-infection among patients with TB exists9.

In one of the first meta-analysis to comprehensively address the prevalence of HCV in TB patients worldwide, review of data of 15,542 patients with TB showed overall prevalence of HCV infection in patients with TB was 7%10. We could find very limited data when we searched local literature. Therefore we decided to conduct a cross sectional study to evaluate the prevalence of co-infection of hepatitis C in patients presenting to us with Tuberculosis at the OPD department of Gulab Devi Hospital, Lahore.

METHODS

This cross sectional study was carried out at Gulab Devi Hospital, Lahore from 1st January 2018 to 30th June, 2019. 400 cases consecutive cases of TB were included in the study. Consent was taken from all patients for inclusion in the study and drawing of specimen. Demographic data of all patients were recorded on proforma. Collected samples were tested for anti HCV at Department of Pathology, Gulab Devi Hospital, Lahore. Results were analyzed using SPSS ver 22.

RESULTS

A total of 400 cases of diagnosed tuberculosis were included in the study. Mean age of the patients was 34.58 +/-17.19 years. 214 (53.5%) of the patients were male while 186 (46.5%) of the patient were female. Majority of the patients were uneducated. (40.8%). Of the 400 patients, 31(7.75%) had co infection with Hepatitis C. When stratification of variables was done it was found that education was the only significant factor. (p = 0.0213)
studies however concluded that the prevalence was higher in married patients although screening of partners was not done\textsuperscript{15}. Perhaps not unsurprisingly the only factor which was significantly associated with a difference was the education level. The prevalence of co-infection was higher in illiterate as compared to educated patients.

Our study does have a number of limitations. It was a single center study with limited number of patients. We didn't carry a detailed investigation into the causes of the disease or outcome of the condition. A more powered multicenter study is required to answer these questions.

**CONCLUSION**

On the basis of our study we can conclude that hepatitis C is prevalent among patients of TB presenting to our OPD. Since the patients affected by this condition are of middle age, it seems pertinent to offer screening to all patients of tuberculosis so that the condition may be identified at an earlier stage. In addition it may also help the physician to modify the treatment in light of additional risk of hepatotoxicity in such patients. Education level of the populace and education regarding the diseases may help to reduce the disease burden.

**REFERENCES**

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